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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,426	12/31/2003	Dilip Madhusudan Ranade	5760-18800	1784

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EXAMINER	
BAYARD, DIJENANE M	

ART UNIT	PAPER NUMBER
2141	

MAIL DATE	DELIVERY MODE
12/13/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/750,426

Applicant(s)

RANADE ET AL.

Examiner

Djenane M. Bayard

Art Unit

2141

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/31/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 8/22/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program’s functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims 17- 30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. *O’Reilly*, 56 U.S. (15 How.)

at 112-14. A signal, a form of energy, does not fall within one of the four statutory classes of §101.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 9-21 and 25-30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Application No. 2002/0087797 to Adrangi

a. As per claims 1 and 17, Adrangi teaches a system comprising: a network (See paragraph [0018]); a plurality of computing nodes coupled via the network (See paragraph [0018]); wherein the plurality of nodes includes a first node operable to: maintain first information regarding a replica of a data object (See page 3, paragraph [0035] *one embodiment of the invention maintains a request history list for determining whether a particular file should be cached*); receive a message for updating the replica of the data object; and respond to the message for updating the replica of the data object based on the first information (See page 4, paragraph [0041]).

b. As per claims 2 and 18, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein the first node is operable to perform a plurality of operations in response to messages for updating the replica of the data object (See page 4, paragraph [0045]); wherein said responding to the message for updating the replica of the data object based on the first information comprises: selecting one or more operations to perform from the plurality of operations based the first information; and performing the one or more selected operations (See page 3, paragraph [0037]).

c. As per claims 3 and 19, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein the first information comprises information indicative of accesses to the replica of the data object (See page 3, paragraph [0035]).

d. As per claims 4 and 20, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein the first node is operable to examine the first information to determine a number of accesses to the replica of the data object within a first time period (See page 3, paragraph [0035 and page 4, paragraph [0043]); wherein said responding to the message for updating the replica of the data object based on the first information comprises invalidating the replica of the data object if the number of accesses within the first time period is below a first value (See page 3, paragraph [0036]).

e. As per claims 5 and 21, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein said invalidating the replica of the data object comprises storing information indicating that the replica of the data object is stale (See paragraph 0035]).

f. As per claims 9 and 25, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein said responding to the message for updating the replica of the data object based on the first information comprises performing an update to the replica of the data object if the number of accesses within the first time period is greater than or equal to the first value (See page 4, paragraph [0043-0044]).

g. As per claims 10 and 26, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein said performing the update to the replica of the data object comprises: the first node communicating with a second node to obtain updated data for the replica of the data object; and the first node updating the replica of the data object based on the updated data (See page 4, paragraph [0042]).

h. As per claims 11 and 27, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein said responding to the message for updating the replica of the data object based on the first information comprises: applying a first heuristic utilizing the first information to determine one or more operations to perform in response to the message for updating the replica of the data object; and performing the one or more operations (See page 4,

paragraph [0041, 0043-0044]).

i. As per claims 12 and 28, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein the first information comprises information indicative of access activity for the replica of the data object; wherein the first heuristic is applied to determine one or more operations to perform based on the access activity for the replica of the data object (See page 4, paragraph [0042]).

j. As per claims 13 and 29, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein said responding to the message for updating the replica of the data object based on the first information comprises: applying a first algorithm utilizing the first information to determine one or more operations to perform in response to the message for updating the replica of the data object; and performing the one or more operations (See page 4, paragraph [0041-0042]).

k. As per claims 14 and 30, Adrangi teaches the claimed invention as described above.

Furthermore, Adrangi teaches wherein the replica of the data object comprises a replica of a file (See page 4, paragraph [0042]).

l. As per claim 15, Adrangi teaches a system comprising: a network (See paragraph [0018]); a plurality of computing nodes coupled via the network (See paragraph [0018]); wherein the plurality of nodes includes a first node operable to: perform a plurality of operations in

response to messages for updating the replica of the data object (See paragraph [0044]); receive a first message for updating the replica of the data object (See paragraph [0042]); select one or more operations to perform from the plurality of operations in response to said receiving the first message; and perform the one or more selected operations (See paragraph [0042 and 0044]).

m. As per claim 16, Adrangi teaches a system comprising: a network (See paragraph [0018]); a plurality of computing nodes coupled via the network (See paragraph [0018]); wherein the plurality of nodes includes a first node operable to: maintain first information indicative of accesses to a replica of a data object (See paragraph [0043-0044]) ; receive a message for updating the replica of the data object; and respond to the message for updating the replica of the data object based on the first information (See paragraph [0042, 0043-0044]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-8 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2002/0087797 to Adrangi in view of U.S. Patent Application No. 2004/0162885 to Garg et al.

a. As per claims 6 and 22, Adrangi teaches the claimed invention as described above.

However, Adrangi fails to teach wherein the replica of the data object includes a plurality of portions of data; wherein the message for updating the replica of the data object comprises a message for updating a first portion of the replica of the data object; wherein said invalidating the replica of the data object comprises invalidating the first portion of the replica of the data object.

Garg et al teaches wherein the replica of the data object includes a plurality of portions of data; wherein the message for updating the replica of the data object comprises a message for updating a first portion of the replica of the data object; wherein said invalidating the replica of the data object comprises invalidating the first portion of the replica of the data object (See paragraph [0060]).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Garg et al in the claimed invention of Adrangi in order to make the two copies consistent with one another (See paragraph [0060]).

b. As per claims 7 and 23, Adrangi in view of Garg et al teaches the claimed invention as described above. Furthermore Adrangi teaches wherein said determining the number of accesses to the replica of the data object within the first time period comprises determining a number of accesses to the first portion of the replica of the data object within the first time period (See page 4, paragraph [0044]).

c. As per claims 8 and 24, Adrangi in view of Garg et al teaches the claimed invention as describe above. Furthermore, Adrangi teaches wherein the first node is operable to maintain information for each of the portions of the replica of the data object, wherein the information for each portion comprises information indicative of accesses to the portion (See page 4, paragraph [0043]).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 6,952829 to Banavar et al teaches dynamically adapting between pessimistic and optimistic notification to replicated objects

U.S. Patent No. 6,957212 to Peng teaches an apparatus and methods for intelligently caching applications data on a gateway.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Djenane M. Bayard whose telephone number is (571) 272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

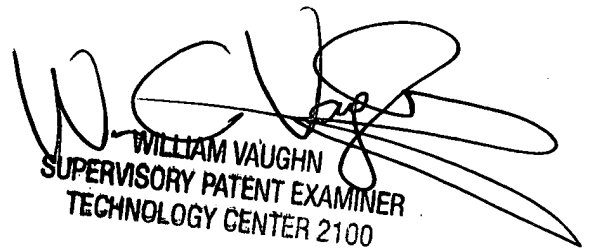
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Djenane Bayard
Patent Examiner


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